

REMARKS/ARGUMENTS

Claims 11-14 stand rejected under 35 USC 112, second paragraph, as being indefinite for the recitation of a membrane "product." Claim 11 has been canceled, rendering its rejection moot, and claims 12-14 have been amended to delete recitation of "product." Accordingly, this rejection is submitted to be overcome.

Claims 1-2, 11 and 13 stand rejected under 25 USC 102(b) as being anticipated by Klein *et al.* U.S. Patent No. 5,766,908 (Klein), the Examiner contending that the Klein microporous membrane is reacted with a functional group such as an aldehyde (pointing to column 9, lines 50-60), to bind an affinity ligand to the membrane; that the membrane is washed with many water-miscible and volatile solvents such as acetone (citing to Example 2) and with mixtures of water and NMP (referring to Example 6); and that it is dried. The Examiner further contends that the affinity ligand-containing Klein membrane is incorporated into columns having various flow rates which implies incorporation into a filtration housing having a fluid inlet and a fluid outlet. This rejection is respectfully traversed for the following reasons.

In general, applicants are in agreement with the Examiner with respect to the teachings of Klein. However, the Examiner is respectfully submitted to be mistaken as to a key aspect of Klein. Specifically, Klein does not react his microporous membrane with a functional group such as an aldehyde to bind the affinity ligand to the membrane. Instead, Klein begins with a microporous membrane that has free reactive or functional groups for coupling the affinity ligand. The following excerpts from Klein demonstrate this.

1. The Affinity Matrix.

The matrix of the invention comprises a thin, semipermeable high-flux, water-insoluble, hydrated hydrogel membrane having free reactive groups for immobilization of ligand, especially free hydroxyl groups.... Other water-swellaable water-insoluble polymers such as vinyl alcohol copolymers with, for example, ethylene... having hydroxyl or other functional groups available for reaction with the selected linking reagents may be used....

Column 3, lines 29-40

The term "cellulosic membrane" refers herein to cellulose or derivatized cellulose membranes which are not fully substituted (i.e., contain sufficient residual hydroxyl groups for covalent linking of a useful amount of ligand, ... to the membrane), at least about one hydroxyl group per repeating [cellulose] unit....

Column 3, lines 57-63

In exemplary embodiments of the invention free hydroxyl groups of a cellulosic membrane are linked to a protein ligand such as an antibody via a bifunctional spacer containing at least one terminal primary amino or hydrazido functional group for reaction with the membrane hydroxyl groups.

Column 5, line 64 through column 6, line 2

In other words, Klein does not teach reacting a microporous membrane with a reagent containing a functional group to form a membrane containing such a functional group on its surface, as called for in step (b) of independent claim 1, as amended. Since claims 2 and 13 both depend from claim 1 (claim 11 has been canceled), they contain the same limitations as does claim 1 and so are likewise not anticipated by Klein.

Claims 1-2 and 11-14 stand rejected under 35 USC 103(a) as being unpatentable over Klein as applied to claims 1-2 and 13, the Examiner apparently arguing that Klein inherently discloses his membranes stored in a dry state in an anaerobic atmosphere, and that it is *prima facie* obvious to include more than one membrane in a filtration housing, citing to MPEP §§2144.06 and 2144.04(VI)(B).

In response, applicant points out that claim 12 has been amended to eliminate any reference to storage in an anaerobic atmosphere and that claim 11 has been canceled, rendering the rejection of those two claims on the stated grounds moot. As to claims 1-2 and 13, applicant points out that claims 2 and 13 both depend from claim 1 and that claim 1 is distinguishable from Klein for the reasons stated above in connection with the anticipation rejection. As to the Examiner's reliance upon MPEP §2144.04 (VI)(B) and MPEP §2144.06, though not specifically so stated, the citations are evidently to support the Examiner's rejection of claim 14. In response, applicants point out that claim 14 ultimately depends from claim 1, and so is distinguishable from Klein for the reasons stated above.

For the reasons stated early and favorable reconsideration is respectfully solicited.

Respectfully submitted,

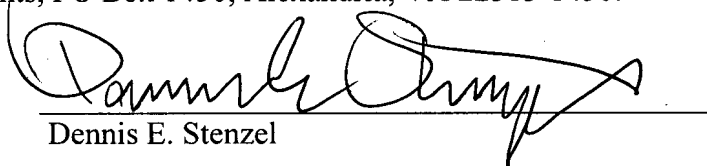


Dennis E. Stenzel
Reg. No. 28,763
Of Attorneys for Applicant
Tel: (503) 227-5631

CERTIFICATE OF MAILING

I hereby certify that this AMENDMENT is being deposited with the United States Postal Service as first class mail on the date indicated below in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450.

Nov 19 107
Date


Dennis E. Stenzel